

Product/Service Description Document
Proposed Operational Implementation of the Polygon-based Dust
Storm Warning and Dust Advisory Products

Part I - Mission Connection

- a. Product/Service Description - Dust Storms are unique, extremely localized extreme weather events that can result in high impact to the public and commerce. Currently, hazard messages for these events are issued via generic Special Weather Statements (SPS) that are not enabled by Valid Time Event Code (VTEC). The proposed operational, polygon-based Dust Storm Warning and Dust Advisory products will be short-duration products, thereby enabling dissemination via the Emergency Alert System (EAS) and Wireless Emergency Alerts (WEA) for enhanced Decision Support Services.
- b. Product Type - Phased Operational Implementation
- c. Purpose - There has been a long-standing need for the National Weather Service (NWS) to effectively disseminate this highly-localized information to our partners who depend upon Valid Time Event Codes (VTEC) to recognize and parse our warning products for their customers. In addition, the capability to define localized areas of threat (e.g., as is available for severe thunderstorms, tornadoes, and flash floods through the use of NWS WarnGen software) would improve communication to the public via WEA and EAS. The proposed operational, polygon-based Dust Storm Warning and Dust Advisory products (VTEC codes DS.W and DS.Y, respectively) will provide critical, life-saving information for these short-term, highly localized, extreme hazardous events to our partners in machine-readable formats, and will enable them to parse the products and make them available to their customers.
- d. Audience - The target audience for these proposed operational products are partners such as emergency managers, state and local officials including school superintendents, Department of Transportation, media, and the general public.
- e. Presentation Format - The format for the proposed operational Dust Storm Warning and Dust Advisory will be polygon-based and will be issued via WarnGen software, similar to tornado, severe thunderstorm, and flash flood warnings. See examples in Part II.
- f. Feedback Method - Feedback on the proposed Dust Storm Warning and Advisory, as presented in the Part II examples, will be gathered from representatives from federal, state, county, and local government agencies and broadcast media during scheduled customer review meetings and via a public web-based survey linked to the product page:

www.nws.noaa.gov/survey/nws-survey.php?code=DSWDSY.

Customer comments or questions on the proposed new product may be addressed to:

Andy Horvitz
National Weather Service (NWS) Headquarters
E-mail: andy.horvitz@noaa.gov
Phone: 301-427-9357

The customer comment period runs from August 15, 2017 through September 15 , 2017.

Part II - Technical Description

- a. Format and Science Basis - The format is described in Part I under "Presentation Format." Forecasters will use available tools to determine the risk of short duration dust storm in their local area including instability and moisture parameters.
- b. Availability - If operationally implemented, these proposed operational products will be available at all times and issued when criteria are met. NWS would request dissemination via the EAS using event code DSW. NWS would also activate WEA for broadcast of the proposed polygon-based Dust Storm Warning to WEA capable cell phones in the warning area. NWS will broadcast polygon-based Dust Storm Warnings over NOAA Weather Radio All Hazards (NWR) and disseminate using Specific Area Message Encoding (SAME) and 1050 Hz warning alarm tones. NWS would also display the warning polygon on NWS radar depictions.

Examples of text products below:

Proposed Operational Dust Storm Warning

The first issuance of a Proposed Dust Storm Warning (VTEC Action - NEW):

WWUS75 KPSR 301756
DSWPSR

BULLETIN - IMMEDIATE BROADCAST REQUESTED
Dust Storm Warning
National Weather Service Phoenix AZ
1049 AM MST Wed Nov 30 2016

AZC021-301815-
/O.NEW.KPSR.DS.W.0001.161130T1749Z-161130T1815Z/
Pinal AZ-
1049 AM MST Wed Nov 30 2016

The National Weather Service in Phoenix has issued a

* Dust Storm Warning for...

Pinal County in southeastern Arizona...

* Until 1115 AM MST

* At 1049 AM MST, A dust storm was detected by trained spotters one mile southwest of Robson Ranch, moving northwest at 20 mph.

HAZARD...Blowing Dust reducing visibility to near zero.

SOURCE...Trained spotters.

IMPACT...Dangerous life-threatening travel.

* Locations impacted include...

Casa Grande, Arizona City, Toltec and Arizola.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

Be ready for a sudden drop in visibility to near zero. If you encounter blowing dust or blowing sand on the roadway or see it approaching, pull off the road as far as possible and put your vehicle in park. Turn the lights all the way off and keep your foot off the brake pedal.

Remember, Pull Aside, Stay Alive.

&&

LAT...LON 3276 11174 3279 11180 3290 11191 3300 11171

3280 11156 3273 11166 3274 11168 3273 11173

TIME...MOT...LOC 1800Z 143DEG 17KT 3282 11169

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WATERS

If an error occurs in the text of a product, a Correction can be issued (VTEC Action - COR):

WWUS75 KPSR 301756
DSWPSR

BULLETIN - IMMEDIATE BROADCAST REQUESTED
Dust Storm Warning
National Weather Service Phoenix AZ
1049 AM MST Wed Nov 30 2016

AZC021-301815-
/O.COR.KPSR.DS.W.0001.161130T1749Z-161130T1815Z/
Pinal AZ-
1049 AM MST Wed Nov 30 2016

The National Weather Service in Phoenix has issued a

* Dust Storm Warning for...
Pinal County in southeastern Arizona...

* Until 1115 AM MST

* At 1049 AM MST, A dust storm was detected one mile southwest of Robson Ranch, south of Casa Grande, moving northwest at 20 mph.

HAZARD...Blowing Dust reducing visibility to near zero.

SOURCE...Radar indicated.

IMPACT...Dangerous life-threatening travel.

* Locations impacted include...
Casa Grande, Arizona City, Toltec and Arizola.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

Be ready for a sudden drop in visibility to near zero. If you encounter blowing dust or blowing sand on the roadway or see it approaching, pull off the road as far as possible and put your vehicle in park. Turn the lights all the way off and keep your foot off the brake pedal.

Remember, Pull Aside, Stay Alive.

&&

LAT...LON 3276 11174 3279 11180 3290 11191 3300 11171
3280 11156 3273 11166 3274 11168 3273 11173
TIME...MOT...LOC 1800Z 143DEG 17KT 3282 11169

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WATERS

If the warning is still in effect, but the threat has passed, the forecaster will issue a Cancellation message (VTEC Action - CAN):

WWUS75 KPSR 301756
DSWPSR

Dust Storm Warning
National Weather Service Phoenix AZ
1149 AM MST Wed Nov 30 2016

AZC021-301859-
/O.CAN.KPSR.DS.W.0001.000000T0000Z-161130T1915Z/
Pinal AZ-
1149 AM MST Wed Nov 30 2016

...THE DUST STORM WARNING FOR PINAL COUNTY HAS BEEN
CANCELLED...

Visibilities have improved in the dust storm and no
longer pose an immediate threat to life or property.
Therefore, the warning has been cancelled.

LAT...LON 3276 11174 3279 11180 3290 11191 3300 11171
3280 11156 3273 11166 3274 11168 3273 11173
TIME...MOT...LOC 1800Z 143DEG 17KT 3282 11169

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WATERS

Proposed Operational Dust Advisory

This product will be issued for convective short-fused blowing dust. The Dust Advisory will be issued when widespread or localized blowing dust suddenly reduces visibilities to one mile or less but greater than $\frac{1}{4}$ mile resulting in hazardous travel. When this product is issued, the EAS and the WEA would not be activated and the VTEC product code is DS.Y.

NEW (NEW):

WOUS45 KLCH 161947
DSWLCH

Dust Advisory
National Weather Service Lake Charles LA
145 PM CST Thu Feb 16 2017

LAC011-TXC241-351-162015-
/O.NEW.KLCH.DS.Y.0029.170216T1945Z-170216T2015Z/
Beauregard LA-Newton TX-Jasper TX-
145 PM CST Thu Feb 16 2017

The National Weather Service in Lake Charles has issued a

* Dust Advisory for...
Southwestern Beauregard Parish in southwestern Louisiana...
Southwestern Newton County in southeastern Texas...
Western Jasper County in southeastern Texas...

* Until 215 PM CST.

* At 145 PM CST, a dust channel was over Old Salem, or near Call,
moving east at 10 mph.

HAZARD...Less than one mile visibility with strong wind in excess
of 30 mph.

SOURCE...Law enforcement.

IMPACT...Hazardous travel.

* The dust channel will impact I-922 between mile markers 1000 and
2000.

Locations impacted include...
Call, Bancroft, Old Salem and Trout Creek.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

Motorists should not drive into an area of blowing dust. PULL ASIDE
STAY ALIVE!

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LAT...LON 3045 9386 3063 9388 3070 9362 3043 9359
TIME...MOT...LOC 1945Z 264DEG 7KT 3055 9379

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NHDA TEST

Corrected (COR):

WOUS45 KLCH 161948 CCA
DSWLCH

Dust Advisory
National Weather Service Lake Charles LA
148 PM CST Thu Feb 16 2017

LAC011-TXC241-351-162015-
/O.COR.KLCH.DS.Y.0029.170216T1947Z-170216T2015Z/
Beauregard LA-Newton TX-Jasper TX-
148 PM CST Thu Feb 16 2017

The National Weather Service in Lake Charles has issued a

* Dust Advisory for...
Southwestern Beauregard Parish in southwestern Louisiana...
Southwestern Newton County in southeastern Texas...
Western Jasper County in southeastern Texas...

* Until 215 PM CST.

* At 148 PM CST, a dust channel was over Old Salem, or near Call,
moving east at 10 mph.

HAZARD...Less than one mile visibility with strong wind in excess
of 30 mph.

SOURCE...Law enforcement.

IMPACT...Hazardous travel.

* The dust channel will affect I-922 between mile markers 1000 and
2000.

Locations impacted include...
Call, Bancroft, Old Salem and Trout Creek.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

Motorists should not drive into an area of blowing dust. PULL ASIDE
STAY ALIVE!

&&

LAT...LON 3045 9386 3063 9388 3070 9362 3043 9359
TIME...MOT...LOC 1948Z 264DEG 7KT 3055 9379

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NHDA TEST

Continued (CON):

WOUS45 KLCH 161950
DSWLCH

Dust Advisory
National Weather Service Lake Charles LA
150 PM CST Thu Feb 16 2017

LAC011-TXC241-351-162015-
/O.CON.KLCH.DS.Y.0029.000000T0000Z-170216T2015Z/
Beauregard LA-Newton TX-Jasper TX-
150 PM CST Thu Feb 16 2017

...A DUST ADVISORY REMAINS IN EFFECT UNTIL 215 PM CST FOR
SOUTHWESTERN BEAUREGARD PARISH...SOUTHWESTERN NEWTON AND WESTERN
JASPER COUNTIES...

At 150 PM CST, a dust channel was over Old Salem, or 7 miles
southeast of Call, moving east at 10 mph.

HAZARD...Less than a mile visibility with strong wind in excess of
30 mph.

SOURCE...Law enforcement.

IMPACT...Hazardous travel.

The dust channel will affect i-922 between mile markers 1000 and
2000.

Locations impacted include...
Call, Bancroft, Old Salem and Trout Creek.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

Motorists should not drive into an area of blowing dust. PULL ASIDE
STAY ALIVE!

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LAT...LON 3045 9386 3063 9388 3070 9362 3043 9359
TIME...MOT...LOC 1950Z 264DEG 7KT 3055 9378

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NHDA TEST

Cancelled/Continued (CAN/CON):

WOUS45 KLCH 161952
DSWLCH

Dust Advisory
National Weather Service Lake Charles LA
152 PM CST Thu Feb 16 2017

TXC241-162002-
/O.CAN.KLCH.DS.Y.0029.000000T0000Z-170216T2015Z/
Jasper TX-
152 PM CST Thu Feb 16 2017

...THE DUST ADVISORY FOR WESTERN JASPER COUNTY IS CANCELLED...

The blowing dust that prompted the advisory has dissipated.
Therefore, the dust advisory has been cancelled.

LAT...LON 3045 9367 3062 9365 3070 9362 3043 9359
TIME...MOT...LOC 1952Z 264DEG 7KT 3055 9377

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LAC011-TXC351-162015-
/O.CON.KLCH.DS.Y.0029.000000T0000Z-170216T2015Z/
Beauregard LA-Newton TX-
152 PM CST Thu Feb 16 2017

...A DUST ADVISORY REMAINS IN EFFECT UNTIL 215 PM CST FOR
SOUTHWESTERN BEAUREGARD PARISH IN SOUTHWESTERN LOUISIANA AND
SOUTHEASTERN NEWTON COUNTIES...

At 152 PM CST, a dust channel was over Old Salem, or 7 miles
southeast of Call, moving east at 10 mph.

HAZARD...Less than a mile visibility with strong wind in excess of
30 mph.

SOURCE...Law enforcement.

IMPACT...Hazardous travel.

The dust channel will affect 1-922 between mile markers 1500 and
2000,

This dust channel will remain over mainly rural areas of southwestern
Beauregard Parish in southwestern Louisiana and southeastern Newton
Counties.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

Motorists should not drive into an area of blowing dust. PULL ASIDE
STAY ALIVE!

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LAT...LON 3045 9367 3062 9365 3070 9362 3043 9359
TIME...MOT...LOC 1952Z 264DEG 7KT 3055 9377

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NHDA TEST

Cancelled (CAN):

WOUS45 KLCH 161955
DSWLCH

Dust Advisory
National Weather Service Lake Charles LA
155 PM CST Thu Feb 16 2017

LAC011-TXC241-351-162005-
/O.CAN.KLCH.DS.Y.0029.000000T0000Z-170216T2015Z/
Beauregard LA-Newton TX-Jasper TX-
155 PM CST Thu Feb 16 2017

...THE DUST ADVISORY FOR SOUTHWESTERN BEAUREGARD PARISH...
SOUTHWESTERN NEWTON AND WESTERN JASPER COUNTIES IS CANCELLED...

The blowing dust that prompted the advisory has dissipated.
Therefore, the dust advisory has been cancelled. Areas of blowing
dust will continue to make travel difficult.

LAT...LON 3045 9386 3063 9388 3070 9362 3043 9359
TIME...MOT...LOC 1950Z 264DEG 7KT 3055 9377

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NHDA TEST

Expired (EXP):

WOUS45 KLCH 162007
DSWLCH

Dust Advisory
National Weather Service Lake Charles LA
207 PM CST Thu Feb 16 2017

LAC011-TXC241-351-162017-
/O.EXP.KLCH.DS.Y.0029.000000T0000Z-170216T2015Z/
Beauregard LA-Newton TX-Jasper TX-
207 PM CST Thu Feb 16 2017

...THE DUST ADVISORY FOR SOUTHWESTERN BEAUREGARD PARISH...
SOUTHWESTERN NEWTON AND WESTERN JASPER COUNTIES WILL EXPIRE AT 215 PM
CST...

The blowing dust that prompted the advisory has dissipated.
Therefore, the dust advisory will be allowed to expire.

LAT...LON 3045 9386 3063 9388 3070 9362 3043 9359
TIME...MOT...LOC 2007Z 264DEG 7KT 3055 9376

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NHDA TEST